AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (Cancelled)

2. (Currently Amended) The CI transmitter recited in claim [[1]] 4 wherein the modulator includes an invertible transform module.

3. (Currently Amended) The CI transmitter recited in claim 2 wherein the invertible transform module is adapted to perform at least one of a Fourier transform, a chirp Z transform, [[and]] or a sliding transform.

4. (Currently Amended) [[The]] A carrier interferometry (CI) transmitter recited in claim 1, comprising:

a CI coder adapted to encode at least one data sequence onto a CI code to produce at least one data-bearing code vector and to adjust subcarrier weights, and

a modulator adapted to modulate the at least one data-bearing code vector onto a plurality of subcarriers,

wherein at least one of the modulator [[and]] or the CI coder is adapted to scramble CI codes generated by the CI coder.

5. (Currently Amended) [[The]] A carrier interferometry (CI) transmitter recited in claim 1, comprising:

a CI coder adapted to encode at least one data sequence onto a CI code to produce at least one data-bearing code vector and to adjust subcarrier weights, and

a modulator adapted to modulate the at least one data-bearing code vector onto a plurality of subcarriers,

wherein at least one of the modulator [[and]] or the CI coder is adapted to provide intentional frequency variations to the subcarriers.

6.   (Currently Amended) The CI transmitter recited in claim [[1]] 4, wherein the CI coder is adapted to provide for channel coding.

7.   (Currently Amended) The CI transmitter recited in claim [[1]] 4, wherein at least one of the modulator and the CI coder is adapted to dynamically allocate subcarriers for at least one communication link.

8.   (Currently Amended) [[The]] A carrier interferometry (CI) transmitter recited in claim 1, comprising:
        a CI coder adapted to encode at least one data sequence onto a CI code to produce at least one data-bearing code vector and to adjust subcarrier weights, and
        a modulator adapted to modulate the at least one data-bearing code vector onto a plurality of subcarriers,
        wherein the CI coder is adapted to perform at least one CI coding algorithm configured to non-uniformly spread the at least one data sequence across the plurality of subcarriers.

9.   (Currently Amended) [[In a]] A Carrier Interferometry (CI) receiver, comprising:
        a demodulator adapted to demodulate at least one data-bearing CI code vector modulated on a plurality of subcarriers and having at least one data sequence non-uniformly spread across the plurality of subcarriers, and
        a CI decoder adapted to decode at least one received data sequence impressed onto the CI code vector and to adjust subcarrier weights.

10.   (Currently Amended) The CI receiver recited in claim [[9]] 12, wherein the demodulator includes an invertible transform module.

11.   (Currently Amended) The CI receiver recited in claim 10, wherein the invertible transform module is adapted to perform at least one of a Fourier transform, a chirp Z transform, [[and]] or a sliding transform.

12.   (Currently Amended) [[The]] A carrier interferometry(CI) receiver ~~recited in claim 9,~~ comprising:

        a demodulator adapted to demodulate at least one data-bearing CI code vector modulated on a plurality of subcarriers, and

        a CI decoder adapted to decode at least one received data sequence impressed onto the CI code vector and to adjust subcarrier weights,

        wherein at least one of the demodulator [[and]] or the CI decoder is adapted to descramble CI codes.

13.   (Currently Amended) [[The]] A carrier interferometry(CI) receiver ~~recited in claim 9,~~ comprising:

        a demodulator adapted to demodulate at least one data-bearing CI code vector modulated on a plurality of subcarriers, and

        a CI decoder adapted to decode at least one received data sequence impressed onto the CI code vector and to adjust subcarrier weights,

        wherein at least one of the demodulator [[and]] or the CI decoder is adapted to compensate at least one signal based on the data-bearing CI code vector on the plurality of subcarriers for subcarrier frequency variations intentionally imparted to one or more of the subcarriers by a transmitter.

14.   (Currently Amended) The CI receiver recited in claim [[9]] 12, wherein the CI decoder is adapted to provide for channel decoding.

15.   (Currently Amended) The CI receiver recited in claim [[9]] 12, wherein at least one of the CI decoder [[and]] or the demodulator are adapted to perform successive interference cancellation.

16.-18. (Canceled)